

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

1. (CURRENTLY AMENDED) A plasma display device having first and second substrates and a discharge gas filled therebetween, the plasma display device comprising:
first and second electrodes extending in parallel to each other on the first substrate; and
first and second discharge electrode parts extending from the first and second electrodes, respectively, so as to oppose each other; and
a plurality of partition walls formed on the second substrate so as to extend perpendicularly to the first and second electrodes, the partition walls each separating an array of the first and second discharge electrode parts from an adjacent array of the first and second discharge electrode parts, wherein
a discharge gap of a substantially constant width is formed between opposing, first and second discharge electrode parts, the discharge gap being defined by first and second edge parts of the opposing first and second discharge electrode parts, respectively;
the first and second edge parts have lengths longer than widths of the first and second discharge electrode parts, the widths being measured in directions in which the first and second electrodes extend, respectively;
the first edge part forms an angle θ with respect to the direction in which the first electrode extends, the angle θ satisfying a condition: $30^\circ < \theta < 60^\circ$; and
the width of each of the first and second discharge electrode parts is 120 μm or less; and
the first and second discharge electrode parts extend toward each other in parallel with, but not overlapping, the partition walls.

2. (ORIGINAL) The plasma display device as claimed in claim 1, wherein the discharge gap has a length longer than or equal to 150 μm and shorter than 200 μm .

3. (ORIGINAL) The plasma display device as claimed in claim 1, wherein:
the first edge part extends obliquely with respect to the direction in which the first electrode extends; and

the second edge part extends substantially parallel to the first edge part and obliquely with respect to the direction in which the second electrode extends.

4. (CANCELLED)

5. (ORIGINAL) The plasma display device as claimed in claim 1, wherein the first and second edge parts are defined by a plurality of sides forming angles with respect to the direction in which the first and second electrode extend, respectively.

6. (ORIGINAL) The plasma display device as claimed in claim 1, wherein:
the first edge part has a convex shape; and
the second edge part has a concave shape matching the first edge part.

7. (PREVIOUSLY AMENDED) The plasma display device as claimed in claim 1, wherein:
the first and second electrodes are repeatedly formed alternately; and
the first discharge electrode parts extend from first and second parallel sides of the first electrode and the second discharge electrode parts extend from first and second parallel sides of the second electrode.

8. (ORIGINAL) The plasma display device as claimed in claim 7, wherein each of the first discharge electrode parts includes first and second electrode patterns extending from the first and second sides of the first electrode, respectively, the first electrode pattern forming a first discharge gap with one of the second discharge electrode parts which one opposes the first electrode pattern, the second electrode pattern forming a second discharge gap with one of the second discharge electrode parts which one opposes the second electrode pattern, the second discharge gap being substantially equal to the first discharge gap in size.

9. (CURRENTLY AMENDED) The plasma display device as claimed in claim 1, ~~further comprising a plurality of partition walls formed on the second substrate so as to extend perpendicularly to the first and second electrodes, the partition walls each separating an array of the first and second discharge electrode parts from an adjacent array of the first and second discharge electrode parts, wherein:~~

the discharge gap has a length longer than or equal to 150 μm and shorter than 200 μm ;

a gap formed between each of the first and second discharge electrodes parts and the partition wall adjacent thereto is 90 μm or greater; and
the partition walls are formed with a pitch of 360 μm .

10. (PREVIOUSLY ADDED) The plasma display device as claimed in claim 9, wherein the width of the discharge gap is 100 μm .

11. (CURRENTLY AMENDED) A plasma display device having first and second substrates and a discharge gas filled therebetween, comprising:

first and second electrodes extending in parallel to each other on the first substrate; and
first and second discharge electrode parts extending from the first and second electrodes, respectively, so as to oppose each other; and

a plurality of partition walls formed on the second substrate so as to extend perpendicularly to the first and second electrodes, the partition walls each separating an array of the first and second discharge electrode parts from an adjacent array of the first and second discharge electrode parts, wherein:

a discharge gap of a substantially constant width is formed between the opposing first and second discharge electrode parts, the discharge gap being defined by first and second edge parts of the opposing first and second discharge electrode parts, respectively;

the first and second edge parts have lengths longer than widths of the opposing first and second discharge electrode parts, the widths being measured in respective directions in which the first and second electrodes extend; and

the first and second edge parts are defined by a plurality of straight line segments forming angles with respect to the respective directions in which the first and second electrodes extend; and

the first and second discharge electrode parts extend toward each other in parallel with, but not overlapping, the partition walls.

12. (CURRENTLY AMENDED) The plasma display device as claimed in claim 11, ~~further comprising a plurality of partition walls on the second substrate so as to extend perpendicularly to the first and second electrodes, the partition walls each separating an array of the first and second discharge electrode parts from an adjacent array of the first and second discharge electrode parts, wherein:~~

the discharge gap has a length longer than or equal to 150 μm and shorter than 200 μm ;

a gap formed between each of the first and second discharge ~~electrodes~~ electrode parts and the partition wall adjacent thereto is 90 μm or over; and
the partition walls are formed with a pitch of 360 μm .

13. (PREVIOUSLY ADDED) The plasma display device as claimed in claim 12, wherein the width of the discharge gap is 100 μm .

14. (CURRENTLY AMENDED) The plasma display device as claimed in claim 1, ~~further comprising a plurality of partition walls formed on the second substrate so as to extend perpendicularly to the first and second electrodes, the partition walls each separating an array of the first and second discharge electrode parts from an adjacent array of the first and second discharge electrode parts, wherein:~~

the discharge gap has a length longer than or equal to 150 μm and shorter than 200 μm ;
a gap formed between each of the first and second discharge ~~electrodes~~ electrode parts and the partition wall adjacent thereto is 60 μm or greater; and
the partition walls are formed with a pitch of 300 μm .

15. (CURRENTLY AMENDED) The plasma display device as claimed in claim 11, ~~further comprising a plurality of partition walls formed on the second substrate so as to extend perpendicularly to the first and second electrodes, the partition walls each separating an array of the first and second discharge electrode parts from an adjacent array of the first and second discharge electrode parts, wherein:~~

the discharge gap has a length longer than or equal to 150 μm and shorter than 200 μm ;
a gap formed between each of the first and second discharge ~~electrodes~~ electrode parts and the partition wall adjacent thereto is 60 μm or greater; and
the partition walls are formed with a pitch of 300 μm .

16. (CURRENTLY AMENDED) A plasma display device having first and second substrates and a discharge gas filled therebetween, the plasma display device comprising:

first and second electrodes extending in parallel to each other on the first substrate; and
first and second discharge electrode parts extending from the first and second electrodes, respectively, so as to oppose each other; and

a plurality of partition walls formed on the second substrate so as to extend perpendicularly to the first and second electrodes, the partition walls each separating an array of

the first and second discharge electrode parts from an adjacent array of the first and second discharge electrode parts, wherein:

a discharge gap of a substantially constant width is formed between first and second discharge electrode parts, the discharge gap being defined by first and second edge parts of the opposing first and second discharge electrode parts, respectively;

the first and second edge parts have lengths longer than widths of the first and second discharge electrode parts, the widths being measured in respective directions in which the first and second electrodes extend;

the first edge part forms an angle θ with respect to the direction in which the first electrode extends, the angle θ satisfying a condition $30^\circ < \theta < 60^\circ$; and

each of the first and second edge parts is of a rectilinear configuration so that a distance between the first and second edge parts is substantially uniform; and

the first and second discharge electrode parts extend toward each other in parallel with, but not overlapping, the partition walls.

17. (PREVIOUSLY PRESENTED) The plasma display device as claimed in claim 16, wherein each of the first and second edge parts is a single straight line or a plurality of straight line segments.

18. (PREVIOUSLY PRESENTED) The plasma display device as claimed in claim 17, wherein:

each of the first and second discharge electrode parts comprises a tip part having a substantially right triangular shape; and

each of the first and second edge parts is a hypotenuse of the tip part.

19. (CURRENTLY AMENDED) The plasma display device as claimed in claim 17, wherein:

the first discharge electrode part comprises a first tip part having a convex shape and the second discharge electrode part comprises a second tip part having a ~~convex~~ concave shape; and

the first edge part comprises a plurality of oblique lines of the first tip part and the second edge part comprises a plurality of oblique lines of the second tip part.

20. (PREVIOUSLY PRESENTED) The plasma display device as claimed in claim 17, wherein:

each of the first and second edge parts comprises a tip part having angularly bent ends;
and

each of the first and second edge parts comprises a plurality of oblique lines of the tip part.

21. (PREVIOUSLY PRESENTED) A plasma display device having first and second substrates and a discharge gas filled therebetween, comprising:

first and second electrodes extending in parallel to each other on the first substrate; and

first and second discharge electrode parts comprising respective first and second edge parts, the first and second discharge electrode parts extending from the first and second electrodes, respectively, toward each other so that a discharge gap is formed between the first and second edge parts,

wherein the first edge part is inclined at a first angle with respect to a first direction in which the first electrode extends, the first angle being determined so that a length of the first edge part minimizes a discharge starting voltage and a drive current for sustaining discharge and is longer than a width of the first discharge electrode part measured in the first direction;

the second edge part is inclined at a second angle with respect to a second direction in which the second electrode extends, the second angle being determined so that a length of the second edge part minimizes the discharge starting voltage and the drive current for sustaining discharge and is longer than a width of the second discharge electrode part in the second direction; and

the first and second edge parts are substantially parallel to each other so that a distance therebetween is substantially uniform.